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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/623,960	07/17/2003	David F. Arlasky	7444 (284*3)	6054
7590	09/10/2007		EXAMINER	
Faier and Faier, P.C. 566 West Adams Street Chicago, IL 60661			SAN MARTIN, EDGARDO	
ART UNIT	PAPER NUMBER			
	2837			
MAIL DATE	DELIVERY MODE			
09/10/2007	PAPER			

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>
	10/623,960	ARLASKY, DAVID F.
	<b>Examiner</b>	<b>Art Unit</b>
	Edgardo San Martin	2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

### Status

- 1) Responsive to communication(s) filed on 22 June 2007.
- 2a) This action is FINAL.                            2b) This action is non-final.
- 3) Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

### Disposition of Claims

- 4) Claim(s) 43,47,49,51,52,56 and 67-69 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_\_ is/are withdrawn from consideration.
- 5) Claim(s) \_\_\_\_\_ is/are allowed.
- 6) Claim(s) 43,47,49,51,52,56 and 67-69 is/are rejected.
- 7) Claim(s) \_\_\_\_\_ is/are objected to.
- 8) Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

### Application Papers

- 9) The specification is objected to by the Examiner.
- 10) The drawing(s) filed on \_\_\_\_\_ is/are: a) accepted or b) objected to by the Examiner.  
 Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
 Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

### Priority under 35 U.S.C. § 119

- 12) Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) All    b) Some \* c) None of:
  1. Certified copies of the priority documents have been received.
  2. Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

### Attachment(s)

- 1) Notice of References Cited (PTO-892)
- 2) Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) Information Disclosure Statement(s) (PTO/SB/08)  
 Paper No(s)/Mail Date \_\_\_\_\_.
- 4) Interview Summary (PTO-413)  
 Paper No(s)/Mail Date. \_\_\_\_\_.
- 5) Notice of Informal Patent Application
- 6) Other: \_\_\_\_\_.

## DETAILED ACTION

### ***Claim Rejections - 35 USC § 112***

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 67 – 68 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The phrase “the chamber being substantially many times greater than” render the claims indefinite. The Specification does not positively recite the meaning of the phrase.

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which the subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 43, 47, 49, 51, 52, 56 and 67 – 69 are rejected under 35 U.S.C. 103(a) as being unpatentable over Chang (US 6,343,673) in view of Weiss et al. (US 4,263,981).

With respect to claims 67 – 69, Chang teaches a high performance exhaust system for removing combustion gases from an internal combustion engine comprising a shell; a tubular chamber within the shell; a sleeve in the shell; sound suppression

materials in the sleeve; the tubular chamber having a substantially constant interior diameter and being perforated with apertures; an inlet tube subassembly fastened to the shell in communication with the tubular chamber; an outlet in the chamber remote from the inlet tube for permitting combustion gases to exit the system; a single rotatable propeller type blade assembly arranged in the inlet tube, the rotatable propeller being seated in but not blocking the chamber and capable of rotation when the combustion gases pass from the inlet tube into the tubular chamber, rotation of the propeller assembly inducing passage of exhaust gases through the expansion chamber to exit through the outlet, the length of the chamber being substantially many times greater than its diameter, so that gases entering the chamber are swirled into a tightly spun vortex thus creating a vacuum drawing gasses through the chamber at an accelerating rate to exit the outlet (Figs.1-7, Col.2, Line 12 – 61). However, Chang fails to disclose wherein the tubular chamber is perforated with apertures to about 40 - 80% porosity, and wherein the chamber have a flow cross section substantially 75% to 90% greater than the flow cross section of the inlet tube.

On the other hand, Weiss teaches exhaust system for removing combustion gases from an internal combustion engine comprising a shell; a tubular chamber within the shell; a sleeve in the shell; sound suppression materials in the sleeve; the tubular chamber having a substantially constant interior diameter and being perforated with apertures; an inlet tube subassembly fastened to the shell in communication with the tubular chamber; an outlet in the chamber remote from the inlet tube for permitting combustion gases to exit the system; wherein the tubular chamber is perforated with

apertures to about 40 - 80% porosity, and wherein the chamber have a flow cross section substantially 75% to 90% greater than the flow cross section of the inlet tube (Figs. 1 and 2, Col.3, Line 55 – Col.4, Line 10).

It would have been obvious to a person with ordinary skill in the art at the time of the invention was made to provide the Weiss aperture porosity and flow cross section ratio to the Chang design because it would provide a muffler structure that would effectively suppress noise while increase the performance and efficiency of an engine at low rotational speed, increasing the engine power and saving the fuel of an vehicle.

With respect to claim 43, the Examiner considers that it would have been obvious to one having ordinary skill in the art at the time the invention was made to employ a Teflon-filled bronze bearing, since it has been held to be within the general skill of a worker in the art to select a known material on the basis of its suitability for the intended use as a matter of obvious design choice. *In re Leshin*, 125 USPQ 416.

With respect to claim 47, Chang teaches the rotatable propeller type blade assembly comprising at least two blades (Fig.2).

With respect to claims 49 and 56, Chang teaches the rotatable propeller's blades (Fig.2) having a degree of inclination of the blade with respect to the path of flow. In addition, it has been held that where the general conditions of a claim are disclosed in the prior art, discovering the optimum or working ranges involves only routine skill in the art. *In re Aller*, 105 USPQ 233.

With respect to claim 51, the Examiner takes Official Notice that it is well known in the art of acoustics to employ fiberglass, glass wool, copper wool, copper strands, steel wool and a combination of the mentioned materials as sound suppressing materials. These materials could withstand high temperatures while exhibiting good sound suppressing characteristics.

With respect to claim 52, Chang teaches wherein the exhaust chamber system is joined directly to an internal combustion engine, or wherein the exhaust chamber system is joined indirectly to an internal combustion engine (Fig.7).

#### ***Response to Arguments***

3. Applicant's arguments with respect to claims have been considered but are moot in view of the new ground(s) of rejection. The Examiner considers that the obvious combination of the patents to Chang and Weiss et al. teach the limitations described in the claims.

#### ***Contact Information***

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Edgardo San Martin whose telephone number is (571) 272-2074. The examiner can normally be reached on 8:00AM - 5:00PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Lincoln Donovan can be reached on (571) 272-2800 ext.37. The fax phone

number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

/Edgardo San Martin/

Edgardo San Martín  
Primary Examiner  
Art Unit 2837  
Class 181  
September 3, 2007